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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,890	09/09/2003	J. Randall Hall	H&S-L	2638
7590	11/30/2005		EXAMINER	
Daniel J. Hudak, Jr. Hudak, Shunk & Farine Co., L.P.A. 2020 Front Street Cuyahoga Falls, OH 44221			ADDISU, SARA	
			ART UNIT	PAPER NUMBER
			3722	

DATE MAILED: 11/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.	10/657,890	
Examiner	HALL, J. RANDALL	
Sara Addisu	Art Unit 3722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

1) Responsive to communication(s) filed on 01 September 2005.  
2a) This action is FINAL.      2b) This action is non-final.  
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

4) Claim(s) 1-10, 12-19, 21 and 22 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) Claim(s) \_\_\_\_\_ is/are allowed.  
6) Claim(s) 1-10, 12-19, 21 and 22 is/are rejected.  
7) Claim(s) \_\_\_\_\_ is/are objected to.  
8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

9) The specification is objected to by the Examiner.  
10) The drawing(s) filed on 09 September 2003 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) All    b) Some \* c) None of:  
1. Certified copies of the priority documents have been received.  
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

1) Notice of References Cited (PTO-892)  
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/31/05.

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) Notice of Informal Patent Application (PTO-152)  
6) Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Specification***

The objection to Specification has been withdrawn due to the amendment filed 9/1/05.

### ***Claim Rejections - 35 USC § 112***

The rejection of claim 18 under 35 U.S.C. 112, second paragraph has been withdrawn due to the amendment filed 9/1/05.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the claimed subject matter of claim 22 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.. To further explain, the Claim 22 recites "...the securing element head portion has an end which is flush mounted or recess mounted in relation to said blade face". Claim 22 depends from Claim 21 which recites (lines 13-14 of claim 21) "...wherein said securing element connects said blade to said body whereby the

securing element has a head portion which extends out from said blade face". It is impossible for the head portion to both extend out from said blade face as well as be flush mounted or recess mounted.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 22 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 22 recites "...the securing element head portion has an end which is flush mounted or recess mounted in relation to said blade face". Claim 22 depends from Claim 21 which recites (lines 13-14 of claim 21) "...wherein said securing element connects said blade to said body whereby the securing element has a head portion which extends out from said blade face". It is impossible for the head portion to both extend out from said blade face as well as be flush mounted or recess mounted.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-10, 12, 14 and 16 are finally rejected under 35 U.S.C. 103(a) as being unpatentable over Hillestad (U.S. Patent No. 5,542,177), in view of Carlson et al. (U.S. Patent No. 4,691,600).

Hillestad teaches a method for preparing a tube end for a welding operation, whereby rotary milling head (20) removes the membrane to a predetermined depth ('177, figures 1 and 3). Regarding claim 8, in a second embodiment, Hillestad teaches a rotary milling head (220) having blades (262) to bevel the end of the tube as well as blades (238) to cut the membrane to a predetermined depth ('177, figures 9 & 10 and Col. 6, lines 38-42 & Col. 7, lines 4 & 43).

Regarding claim 3, page 4, lines 1-6 of Instant Application cites, "Heretofore, membrane removal utilizing rotary milling tools on an existing tube of a tube wall has been limited to a cutting sweep equal to the outer radius of a tube. Prior art membrane removal heads are not capable of performing tube cleanup and/or weld overlay removal due to milling head blade configuration or design". Since Hillestad teaches cutting sweep that has an outer radius that is greater than the outer radius of a tube, Hillestad's milling head is capable of removing any weld overlay from the surface of the tube.

However, Hillestad fails to teach a milling tool for removing an outer radial thickness of the tube.

CARLSON ET AL. teaches a milling head (10) for removing an outer radial thickness of a tube 11) to a predetermined depth (L) from the tube end ('600, figure 1 & 2 and Col. 1, lines 5-8 and Col. 2, lines 38-56). The milling head (10) comprises a cylindrical body (18) having an annular recess, said body adapted to be connected to a

rotary milling tool, and one or more cutting blades (26, 31 and 32) connected to said body by a securing element (27), each said blade disposed circumferentially around the rotational axis of the milling head ('600, figures 1, 3, 5 & 6). CARLSON ET AL. teaches in figure 6, cutting blades (26, 31 and 32) having a face surface with a bore extending therethrough to receive securing element (27), the blades having a countersink around said bore capable of receiving the head of said securing element (27) such that it is flush mounted. Regarding claims 1, 4-7, 9, 14 and 16, CARLSON ET AL. does not expressly disclose the blade having a cutting sweep defined by an inner radius which is adapted to remove 2-25% of the outer thickness of the tube and outer radius that is at least equal to the tube outer diameter (Claims 1, 4 and 5), or up to about 10 % (Claims 6 and 7), or up to about 25 % (Claim 9) or 2-15% (Claim 14) or 2-10% (Claim 16). Additionally, CARLSON ET AL. does not expressly disclose the removal of the annular outer thickness being performed to a depth of 0.25-1.5 inches (Claims 4, 5 and 9) or 0.25-1 inch (Claims 6 and 7) when measured from the tube end. However, there is nothing limiting the structure of CARLSON ET AL. from being "adapted" to remove different ranges of annular outer tube thickness as well as to different depths from the tube end, depending on the size of the insert being utilized. It is well known in the machining art to use whatever cutting blade was desired or expedient based on the particular machining operation required and discovering the optimum or workable range involves only routine skill in the art, *In re Aller*. This concept is also supported by CARLSON ET AL. ('600, Col. 3, lines 14-17 and Col. 4, lines 11-12). Furthermore,

Applicant does not provide any criticality or unexpected results for the claimed ranges of outer radial thickness removal or the depth from the tube end (page 16, lines 21-31).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate an added step of removing the outer radial thickness of the tube to Hillestad's method of preparing a tube end for a welding operation, as taught by CARLSON ET AL. for the purpose of providing a smooth uniform diameter cylindrical surface for a close fit when coupling such that the integrity of the joint is enhanced ('600, Col. 1, lines 20-26).

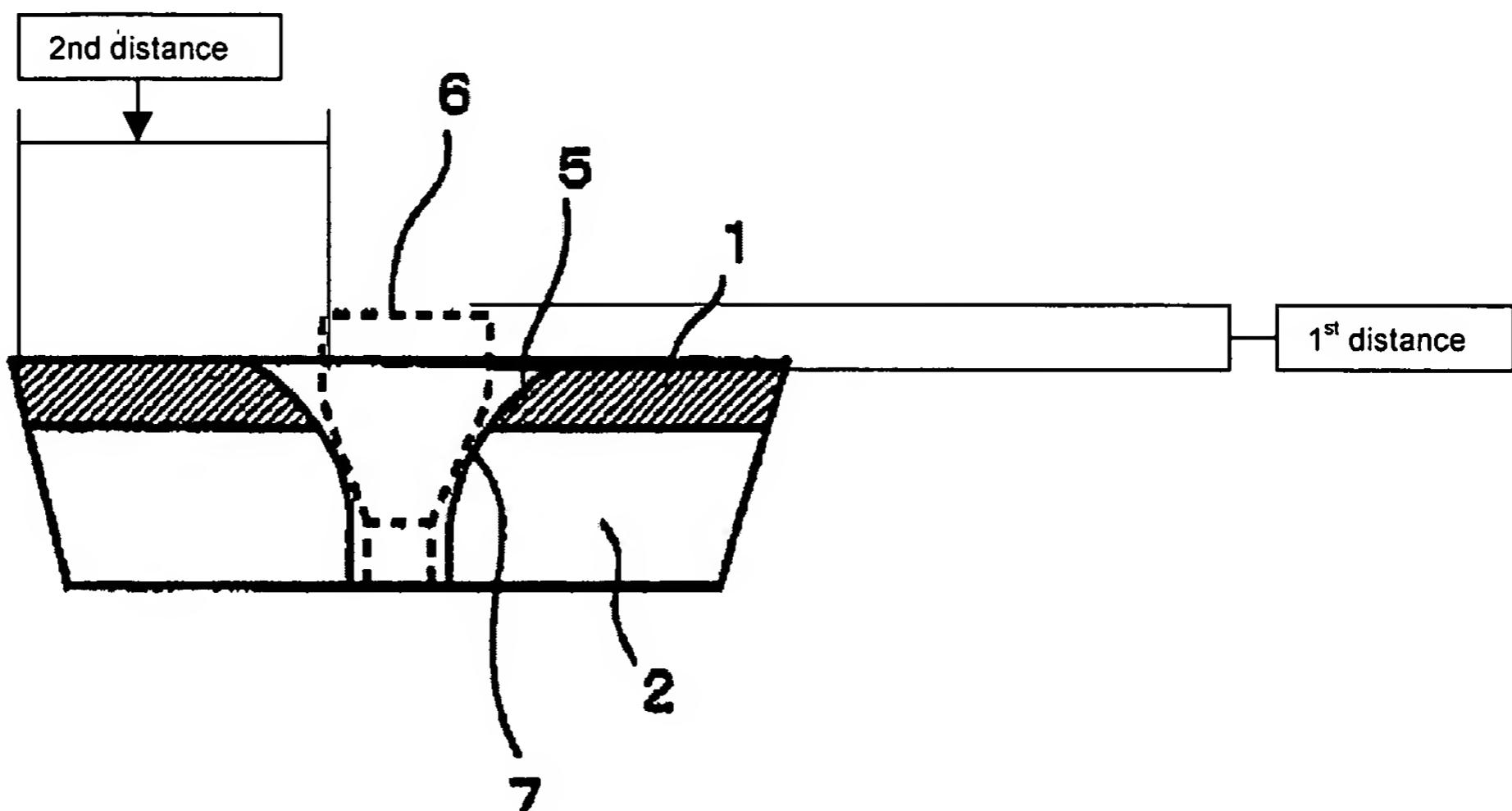
2. Claims 13, 15, 17-19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hillestad (U.S. Patent No. 5,542,177), in view of Carlson et al. (U.S. Patent No. 4,691,600) and further in view of Ueda et al. (U.S. Pub. No. 2004/0234349).

The modified device of Hillestad teaches the method of preparing a tube for a welding operation including the step of removing outer radial thickness of a tube to a predetermined depth as well as the step of beveling the end of the tube, as set forth in the above rejection.

However, the modified device of Hillestad fails to teach a securing element having a head that extends out from the blade face.

Ueda et al. teaches a cutting insert having a countersink around its bore for receiving a portion of the bead of the bolt (6) while having a top portion that extends out

from the insert face surface (see figure 2B). Ueda et al. also teaches first distance which is less than second distance (and is less than 90% and 95% of the second distance) (see diagram below).



Regarding claims 15 and 17, CARLSON ET AL. does not expressly disclose the blade having an cutting sweep inner radius of about 2-15% of the outer thickness of the tube (Claim 15) or 2-10% (Claim 17). However, as mentioned above, there is nothing limiting the structure of CARLSON ET AL. from removing different ranges of annular outer tube thickness, depending on the size of the insert being utilized. It is well known in the machining art to use whatever cutting blade was desired or expedient based on the particular machining operation required and discovering the optimum or workable range involves only routine skill in the art, *In re Aller*. This concept is also supported by CARLSON ET AL. ('600, Col. 3, lines 14-17 and Col. 4, lines 11-12). Furthermore,

Applicant does not provide any criticality or unexpected results for the claimed ranges of outer radial thickness removal or the depth from the tube end (page 16, lines 21-31).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to secure the blade to the body utilizing a bolt that has a head that extends out from the blade face, as taught by Ueda et al. because it's well known in the art to select a clamping-hole configuration that is in conformance with the strength and mounting precision rendered necessary by the tool (2004/0234349, page 2, paragraph 18, lines 13-15).

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sara Addisu at (571) 272-6082. The examiner can normally be reached on 8:30 am - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Boyer Ashley can be reached on (571) 272-4502. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sara Addisu  
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SA  
11/23/05



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PRIMARY EXAMINER